Administration Report of the Public Works Department in the Bombay Presidency for the Year 1935-36

With a detailed review of the Civil and Military Works

ROYAL ASIATIC SOCIETY LIBRARY OF THE BOMBAY BRANCH OF THE

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ROYAL ASIATIC SOCIETY LIBRARY OF THE BOMBAY BRANCH OF THE

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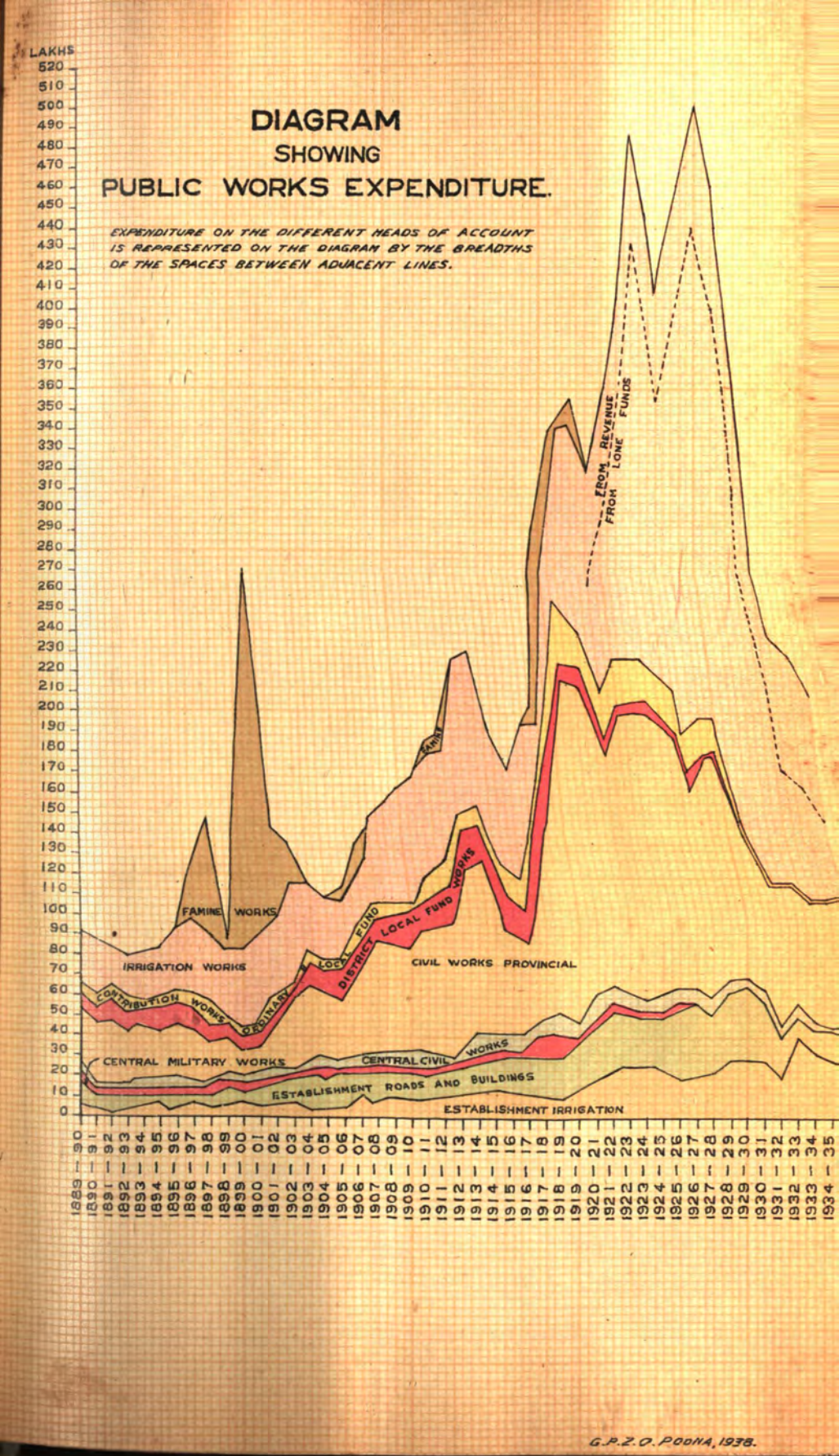
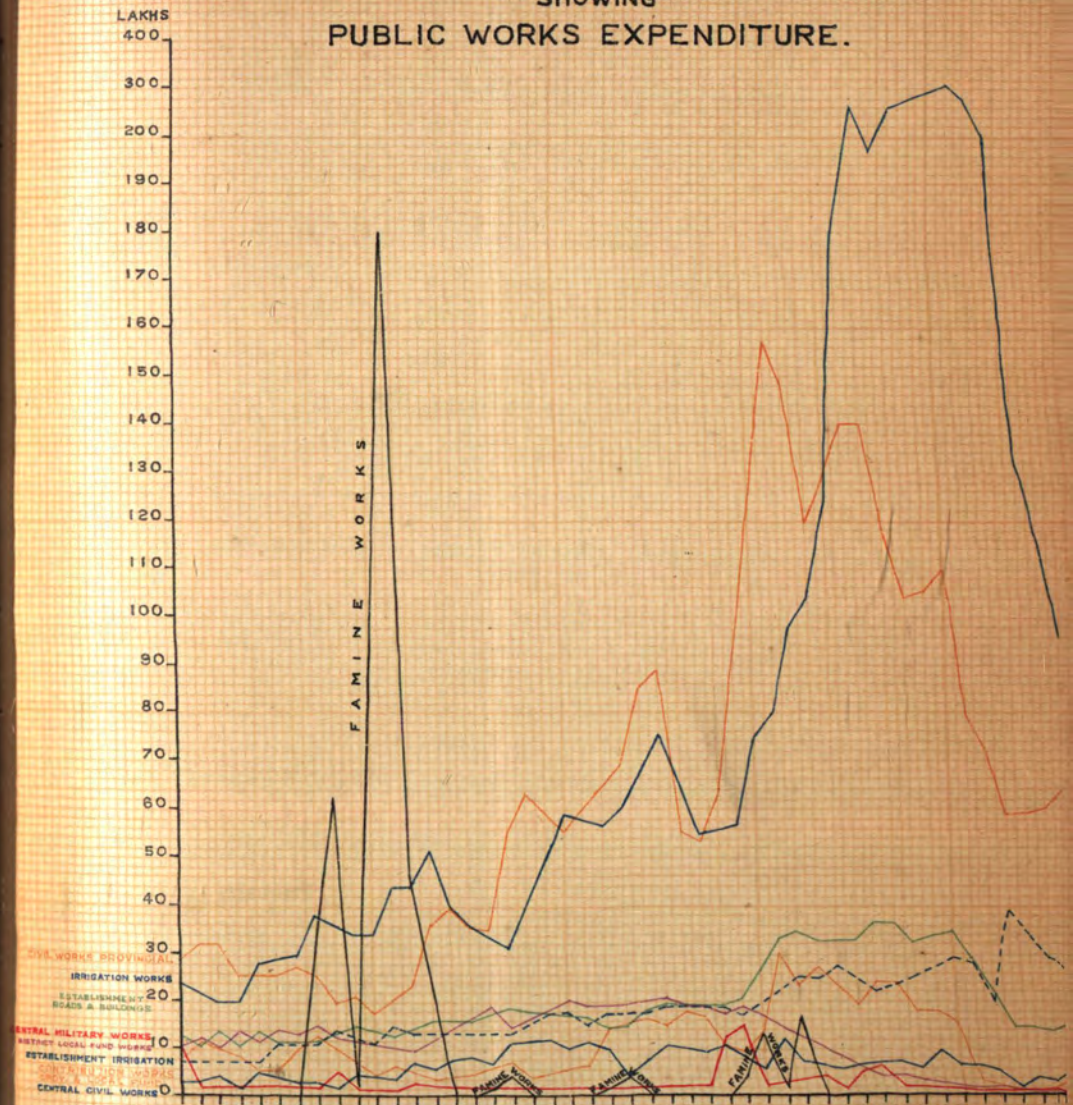


G.P.Z.O. POONA, 1938.

DIAGRAM
SHOWING
PUBLIC WORKS EXPENDITURE.



G.P.Z.O. POONA, 1938.

DIAGRAM

SHOWING

EXPENDITURE ON IRRIGATION WORKS IN THE PUBLIC WORKS DEPARTMENT FROM LOAN FUNDS, REVENUE & CONTRIBUTION

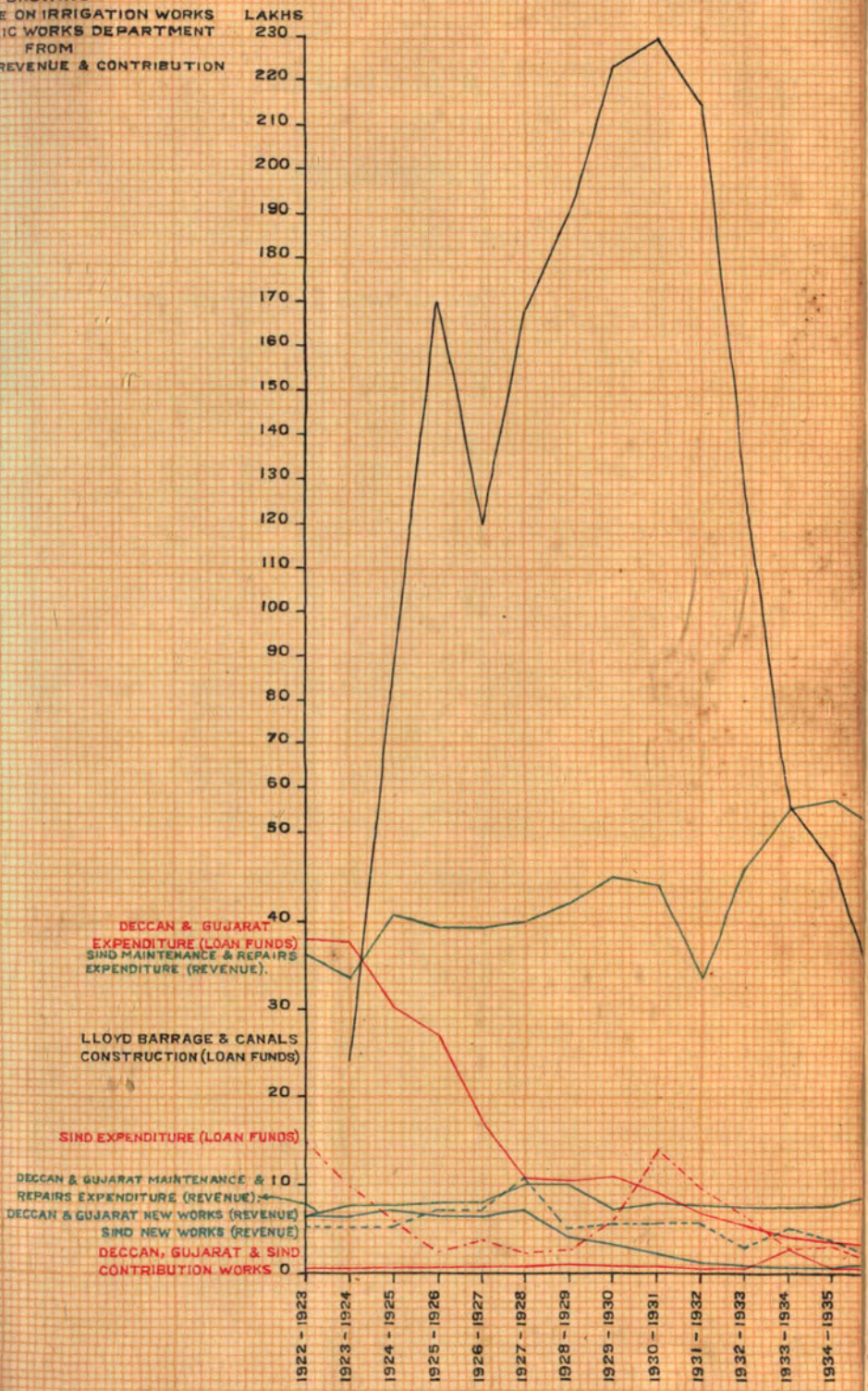


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DIAGRAM SHOWING EXPENDITURE ON PROVINCIAL BUILDINGS AND ROADS IN THE PRESIDENCY PROPER

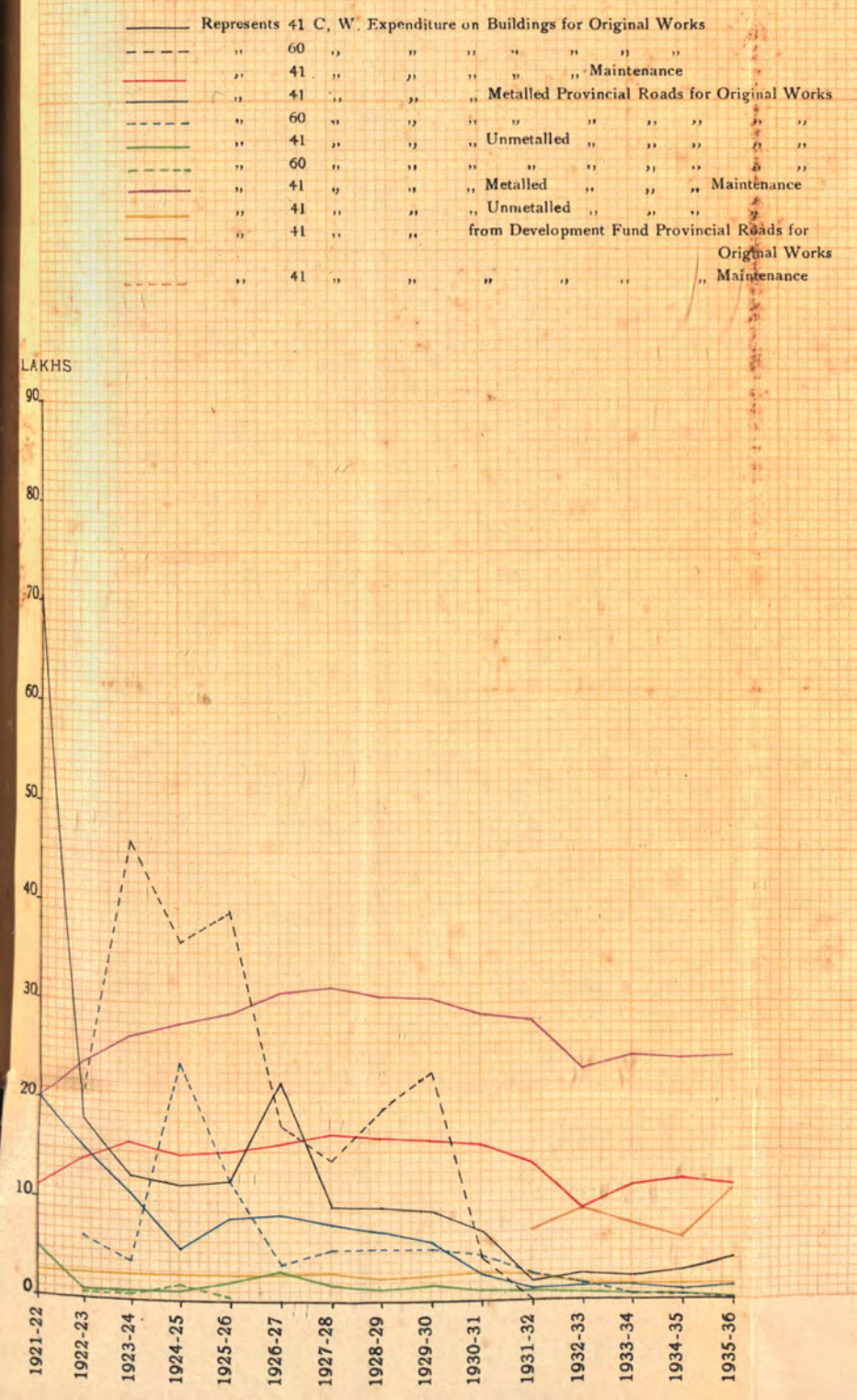


DIAGRAM SHOWING EXPENDITURE ON D.L.B. ROADS IN THE PRESIDENCY PROPER

(ORIGINAL WORKS AND REPAIRS)

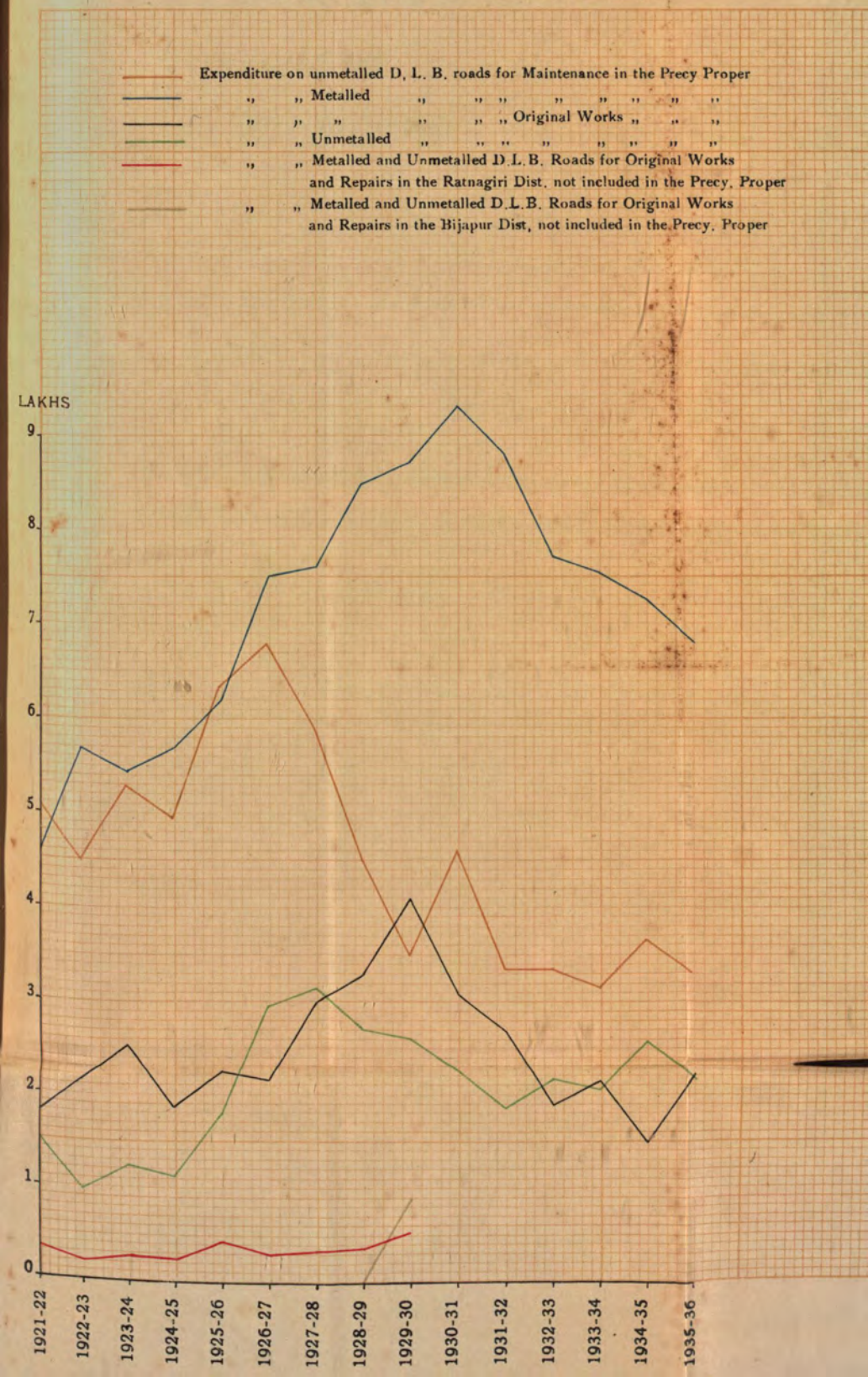
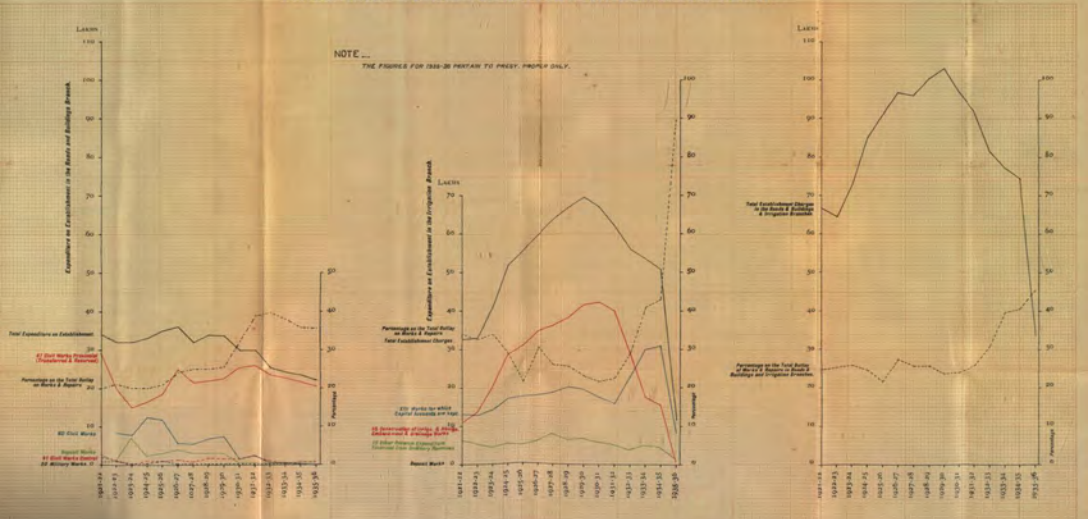


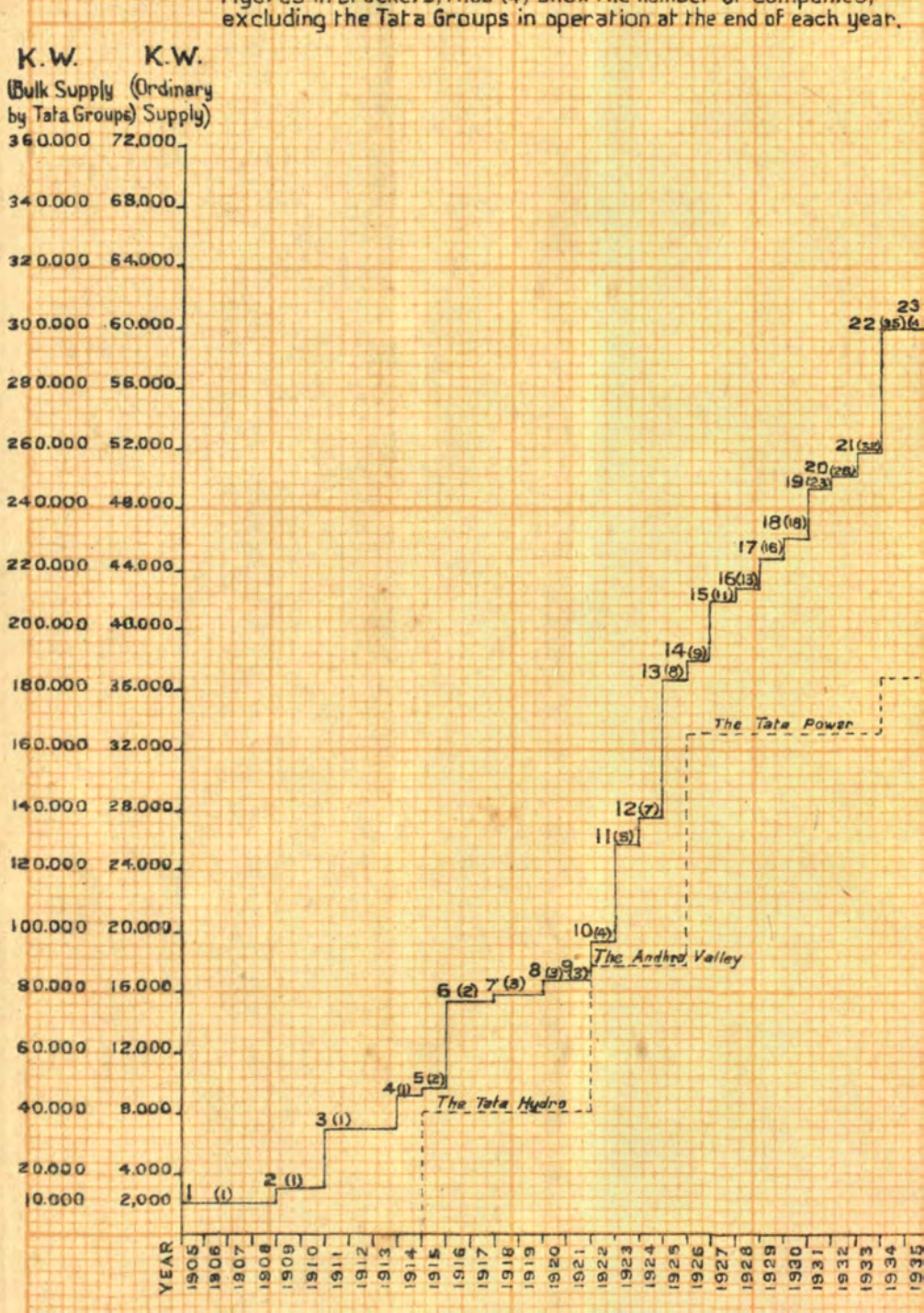
DIAGRAM SHOWING EXPENDITURE
ON ESTABLISHMENT
IN THE
ROADS & BUILDINGS & IRRIGATION BRANCHES
OF THE
PUBLIC WORKS DEPARTMENT
AND
PERCENTAGES TO THE TOTAL OUTLAY ON WORKS AND REPAIRS


NOTE—
THE FIGURES FOR 1935-36 PERTAIN TO PRESY. PROPER ONLY.
Lakhs
Percentages
Expenditure on Establishment in the Roads and Buildings Branch
Expenditure on Establishment in the Irrigation Branch
Total Expenditure on Establishment
Percentages on the Total Outlay on Works & Repairs
Total Establishment Charges
Repairs Works
Total Establishment Charges in the Roads & Buildings & Irrigation Branches
Percentages on the Total Outlay on Roads & Buildings and Irrigation Branches

Govt. Photozincographic Dept. Poona. 1937.

GRAPH
SHOWING THE PROGRESS OF ELECTRICAL DEVELOPMENT IN TERMS OF KILOWATTS INSTALLED FROM 1905 TO DATE BY VARIOUS SUPPLY COMPANIES IN THE BOMBAY PRESIDENCY.

NOTE ~ Dotted line shows Tata Groups Bulk Power Supply.
Full line shows total of ordinary Supply.
Figures in Brackets, thus (4) show the number of Companies, excluding the Tata Groups in operation at the end of each year.



INCREASE DUE TO

Ref. No.	Incre. or decre. of load old Supply Co.	Start of New Supply Co.
1		Bombay El. S.T.
2	Bombay El. S.T.	
3	Bombay El. S.T.	
4	Bombay El. S.T.	
5		Ahmedabad
6	Bombay El. S.T.	
7	Ahmedabad	Poona
8	Ahmedabad Poona	
9		
10	Bombay El. S.T. Poona	Surat
11	Bombay El. S.T. Ahmedabad Poona	Godhra
12	Ahmedabad Poona	Broach Gadag and Betigeri.
13	Bombay El. S.T. Ahmedabad Poona	Sholapur
14	Poona Broach	Rander
15	Bombay El. S.T. Poona Surat	Bhiwandi Hubli
16	Surat	B'bay Suburn Thana
17	Bombay El. S.T. Surat Broach B'bay Suburn	Lonavla Khandala Kalyan Bijapur
18	Poona Rander B'bay Suburn	Panvel Dharwar
19	Bombay El. S.T. B'bay Suburn Bhiwandi Ahmedabad Godhra Panvel	Pandharpur Panchgani Matheran Jalgaon Nasik-Deolali
20	B'bay Suburn Kalyan Rander Pandharpur Bijapur Matheran	Dhulia Ahmednagar Amalner Nadiad Belgaum

Ref. No.	Incre. or decre. of load old Supply Co.	Start of New Supply Co.
21	Bombay El. S.T. B'bay Suburn Thana Bhiwandi Surat Lonavla Dhulia Ahmednagar Hubli Bijapur Matheran	Bulsar Yeola Baramati Barsi
22	B'bay Suburn Bhiwandi Kalyan (Reduction) Ahmedabad Surat Sholapur Pandharpur (Red.) Panchgani Bijapur Dharwar Matheran Panvel (Reduction) Belgaum Bulsar	 Khopoli Haveri Bagalkot
23	B'bay El. S.T. B'bay Suburn Kalyan Bhiwandi Jalgaon Gadag & Betigeri Belgaum Bulsar Pandharpur Ahmedabad (Redy) Bijapur " " Nadiad " " Surat " "	Bassein Satara Malegaon Viramgaum Sangamner Bhusawal

9-2-37.

Electrical Engineer to Govt.
P.W.D. Bombay.

S.R.T.O. POONA, 1937.

PUBLIC WORKS DEPARTMENT.

BOMBAY PRESIDENCY.

ADMINISTRATION REPORT WITH A DETAILED REVIEW OF THE CIVIL AND MILITARY WORKS FOR 1935-36.

I—DIRECTION.

During the year under report Mr. C. M. Lane, C.S.I., I.S.E., continued as Chief Engineer and Secretary to Government till 8th February 1936, on which date he proceeded on leave preparatory to retirement and Mr. T. A. Andrew, B.Sc. (Eng.) Glas., I.S.E., on return from leave, was appointed to succeed him from that date.

II—ADMINISTRATIVE MEASURES.

Mr. W. L. C. Trench, B.A.I. (Dub.), M.Inst.C.E., I.S.E., was confirmed as Chief Engineer permanent, with effect from 17th June 1935, *vice* Sir Charlton Harrison, Kt., C.I.E., M.I.E. (Ind.), I.S.E., Chief Engineer, retired.

Mr. T. A. Andrew, B.Sc. (Eng.) Glas., I.S.E., was confirmed as Chief Engineer permanent, with effect from 8th February 1936 in the vacancy caused by Mr. C. M. Lane, C.S.I., I.S.E., Chief Engineer, proceeding on leave preparatory to retirement.

Mr. S. B. Tyabji, A.M.Inst.C.E., M.I.E. (Ind.), I.S.E., was confirmed as Superintending Engineer permanent, with effect from 17th June 1935, *vice* Mr. Trench confirmed as Chief Engineer.

Mr. A. Gordon, B.Sc. (Eng.), Glas., I.S.E., was appointed Superintending Engineer, provisionally permanent, with effect from 3rd December 1934, *vice* Col. D. S. Johnston, C.I.E., R.E., I.S.E., Superintending Engineer permanent, in foreign service, and was confirmed as Superintending Engineer permanent, with effect from 27th September 1935, *vice* Mr. S. C. Mould, C.I.E., B.A. (Cantab.), I.S.E., Superintending Engineer retired.

Mr. E. P. Watson, M.Inst.C.E., I.S.E., was appointed Superintending Engineer provisionally permanent, with effect from 27th September 1935, *vice* Mr. Gordon confirmed as Superintending Engineer permanent and was confirmed as Superintending Engineer permanent, with effect from 8th February 1936, *vice* Mr. Andrew, confirmed as Chief Engineer.

One graduate from the College of Engineering, Poona, was appointed as a Candidate in the Bombay Service of Engineers.

III—TERRITORIAL CHANGES.

The following temporary Sub-divisions were made permanent with retrospective effect from 13th November 1934 :—

Name of Division.	Name of Sub-division.	Head-quarters of Sub-division.
Nira Right Bank Canal Division.	1. Malsiras ..	Malsiras.
	2. Mohod ..	Mohod.
	3. Velapur ..	Velapur.
	4. Phaltan ..	Phaltan.
Irrigation Research Division.	1. Baramati Research ..	Baramati.
	2. Kopargaon Research ..	Kopargaon.
	3. Hydrodynamic Research .	Poona.
	4. Baramati Experimental Salt area.	Malegaon Colony.
	5. Hadapsar Effluent Experimental area.	Hadapsar.
Poona Irrigation Division.	1. Old Bhatgar now known as Vir Sub-division.	Nira.

The combined Godhra Sub-division of the Kaira and Panch Mahals Division was continued for a further period of two years with effect from 13th November 1934.

The Math-Kasal Road, measuring 19 miles and 5 furlongs, including the masonry works thereon, was retransferred from the Ratnagiri Division to the Belgaum Division with effect from 1st April 1935.

The Loni Section comprising the Mutha Right Bank Canal was transferred from Distributary 7 to Distributary 16 with effect from 1st April 1935.

The Poona-Sholapur Road from mile 6 to mile 20 was transferred from the Mutha Canals Sub-division to the Minor Tanks Sub-division with effect from 1st April 1935.

The Baramati-Diksal Road was transferred from the Baramati Sub-division to Minor Tanks Sub-division with effect from 1st April 1935.

The head-quarters of the Rajapur Sub-division in the Ratnagiri Division which were temporarily fixed at Kankavli were retransferred to Rajapur with effect from 1st December 1935.

The Northern Branch Section of the Pravara Left Bank Canal was transferred from Khandala Sub-division to Vadala Sub-division in January 1936.

Water courses Nos. 32, 33 and 34 of the Pravara Left Bank Canal were transferred from Vadala Sub-division to Khandala Sub-division in January 1936.

The head-quarters of the Thana Sanitary and Salsette Water Supply Sub-division of the Thana Division were transferred from Santa Cruz to Vile Parle in January 1936.

Miscellaneous.

The services of Mr. H. W. Oddin Taylor, A.C.G.I., B.Sc., A.M.Inst.C. E., O.B.E., I.S.E., Executive Engineer, were placed at the disposal of the Administration of British Baluchistan for employment as Superintending Engineer for Irrigation and Civil Works for a period of one year with effect from 25th June 1935.

The period of the loan of the services of Rao Bahadur B. L. Modak, M.C.E., A.M.I.C.E., A.M.I.E.(Ind.), I.S.E., Executive Engineer, to the Indore State, was further extended up to 15th August 1937.

The services of Mr. F. O. J. Roose, M.I.Mech.E., M.I.E.E., F.C.S., Electrical Engineer to Government, were retained on public grounds for one year from 22nd July 1935 on which date he attained the age of 55 years.

Under section 36 of the Indian Electricity Act, 1910, the Engineer, Government Central Distillery, Nasik Road, was appointed an Electrical Inspector and he performed the functions of the Electrical Inspector under the said Act within the area occupied by the Government Central Distillery, Nasik Road.

The appointment of Mr. E. C. Henriques, Chartered Architect, as part-time Architectural Adviser to Government was further continued until further orders.

IV—DETAILED REVIEW.

A. Civil Buildings.

During the year under review the Roads and Buildings Branch of the Public Works Department of the Presidency (including Sind) executed works involving a total expenditure of Rs. 1,06,93,910. Important details of expenditure in the Presidency Proper under the various heads are given below :—

Central Services.

		Rs.
Customs—		
On Works		5,167
On Repairs		34,325
	Total	39,492
Salt—		
On Works		73,836
On Repairs		1,10,915
	Total	1,84,751

		Rs.
Ecclesiastical—		
On Works		1,749
On Repairs		25,268
	Total ..	27,017
Political—		
On Works		177
On Repairs		510
	Total ..	687
Scientific Departments (Meteorological)—		
On Works		1,611
On Repairs		4,176
	Total ..	5,787

Public Health—

An expenditure of Rs. 554 was incurred on repairs.

		Rs.
Mint—		
On Works		1,700
On Repairs		12,000
	Total ..	13,700
Currency—		
On Works		....
On Repairs		584
	Total ..	584
Posts and Telegraphs—		
On Works		42,278
On Repairs		92,698
	Total ..	1,34,976
Archaeological—		
On Works		....
On Repairs		30,994
	Total ..	30,994

Military Works—

Under this head an expenditure of Rs. 4,464 was incurred on repairs.

Civil Aviation—

An expenditure of Rs. 3,272 was incurred on repairs under this head.

During the year under review quarters for the Post Master, Ahmednagar, in the compound of the Head Post Office at Ahmednagar were constructed at a cost of Rs. 5,691. The Post Office at Khanapur in the Belgaum Division was also completed at a cost of Rs. 8,111. The work of constructing a bungalow for the Assistant Collector of Salt Revenue and quarters for 5 Customs Inspectors and one Appraiser at Viramgam was in progress. A sum of Rs. 17,000 was spent in purchasing the American Mission Bungalow at Ratnagiri for the residence of the Assistant Collector of Salt Revenue.

Provincial Services.

	Rs.
Land Revenue—	
On Works	1,344
On Repairs	4,088
Total ..	5,432
Excise—	
On Works	29,796
On Repairs	20,751
Total ..	50,547

The work of constructing a new liquor warehouse near Poona Railway Station estimated to cost Rs. 40,164 was in progress. The expenditure during the year amounted to Rs. 20,890.

	Rs.
Forests—	
On Works	1,114
On Repairs	4,172
Total ..	5,286
Registration—	
On Works	253
On Repairs	152
Total ..	405
General Administration—	
(1) *Residences for Heads of Provinces—*	
On Works	48,904
On Repairs	1,93,549
Total ..	2,42,453

		Rs.
(2) *Residences for Ministers*—		
On Repairs	.. .. ..	5,314
(3) *Provincial Legislative Councils*—		
On Works	.. .. ..	744
On Repairs	.. .. ..	13,248
	Total ..	13,992

An expenditure of Rs. 933 was incurred on repairs to residences.

		Rs.
(4) *Secretariat and Headquarters Establishment*—		
On Works	.. .. ..	3,562
On Repairs	.. .. ..	12,595
	Total ..	16,157
(5) *Commissioners and District Officers*—		
On Works ..	.. .. ..	42,132
On Repairs	.. .. ..	1,35,822
	Total ..	1,77,954

The work of constructing a new Mamlatdar's kacheri at Kumta and Revenue Establishment quarters at Yellapur estimated to cost Rs. 48,252 and Rs. 29,575, respectively, was in progress. Expenditure to the extent of Rs. 14,998 and Rs. 7,000 was incurred on works during the year.

		Rs.
Administration of Justice—		
On Works ..	.. .. ..	20,269
On Repairs ..	.. .. ..	55,119
	Total ..	75,388
Miscellaneous—		
On Works ..	.. .. ..	3,533
On Repairs	.. .. ..	13,958
	Total ..	17,491
Police—		
On Works ..	.. .. ..	1,28,723
On Repairs ..	.. .. ..	2,05,582
	Total ..	3,34,305

The work of rebuilding 148 units for Police Constables at Headquarters Police Lines, Thana, was in progress.

Jails and Convict Settlements—		Rs.
On Works		8,063
On Repairs		49,830
	Total ..	57,893
Education—		
On Works		10,387
On Repairs		59,642
	Total ..	70,029
Miscellaneous—		
On Works		651
On Repairs		26,024
	Total ..	26,675
Medical—		
On Works		56,874
On Repairs		1,20,775
	Total ..	1,77,649
Miscellaneous—		
On Works		3,820
On Repairs		42,294
	Total ..	46,114

The work of constructing a building comprising an X-Ray room, Electro-Therapeutic room, Dark room, etc., in the Civil Hospital at Belgaum was carried out at a cost of Rs. 6,839.

Agriculture—		Rs.
On Works		6,231
On Repairs		17,375
	Total ..	23,606
Stationery and Printing—		
On Works		1,662
On Repairs		13,999
	Total ..	15,661

Civil Works—		Rs.
On Works		49,900
On Repairs		1,74,393
	Total ..	2,24,293

The work of providing a Remand Home for 80 girls in the compound of the Rescue Home, Umerkhadi, Bombay, a deposit contribution work, was in progress.

Public Health—		Rs.
On Works		7,614
On Repairs		30,384
	Total ..	37,998
Miscellaneous Departments—		
On Works		3,724
On Repairs		6,154
	Total ..	9,878

Government Central Stores, Workshop and Training Centre, Dapuri.

During the year under report the total outturn including the closing balance was Rs. 1,62,118—an increase of Rs. 38,797 over the previous year's outturn. The outturn was increased as a result of the increased business offered during the year. The work was of a varied nature as usual and included repairs to road rollers, pumps of all description, oil engines, steam engines, stone crushers, mortar mills, manufacture of sluice gates, B. S. S. special pipes, roof trusses, ferry boat, etc. The work of manufacture of "Everite" specials and joints for a firm in Bombay was continued throughout the year. Certain boring works which were undertaken for the Ahmedabad Municipality during the previous year were completed in 1935-36. In addition, orders for boring works from certain firms in Ahmedabad were received. Some of them were completed during the year; some works are in progress. Besides estimates for repairs to pumping plants required at some places were prepared.

During the year under report 35 apprentices were under training and 5 apprentices completed their training.

B. Electrical.

(1) *Electric Licenses.*

Electric supply continued to attract the attention of the public in an increasing degree. Three new licenses and five sanctions under section 28 of the Indian Electricity Act were granted during the year under

report (1935–36) for the supply of electricity to Guledgud, Ilkal, Chalisgaon, Nandurbar, Mahableshwar, Sinnar, Malwan and Dohad, while several additional applications were under the consideration of Government. By the end of the year under review, electricity had been introduced in 43 centres in the Presidency proper (excluding Sind) and 10 other centres were in the process of being electrified. The number of licenses excluding those revoked, but including sanctions under Section 28 of the Indian Electricity Act, actually in operation in the Presidency proper at the beginning of the year was 51, while at the end of the year the number operating was 59.

(2) *Electricity Duty.*

The electricity duty was first imposed by the Finance Act of 1932 and has continued to be in operation in the succeeding years. The receipts from the tax amounted to Rs. 9,69,173 during the year 1935–36. The receipts are credited to the head "XXXV—Miscellaneous (Provincial)" with effect from the year 1933–34.

(3) *Electric Works.*

The expenditure incurred by the Electrical Branch during the year under the various heads was as under:—

	Rs.
(1) New works and additions and alterations to the existing installations	46,757
(2) Repairs	1,90,642
(3) Tools and Plant	9,662
(4) Temporary illumination on the occasion of the Silver Jubilee of His Majesty the King Emperor George V	93,375*
Total ..	3,40,436

The following important works were carried out during the year:—

	Rs.
Electric installation in the Science laboratories, Karnatak College, Dharwar	8,686
Electrification of the Judicial buildings at Nadiad ..	8,494
Electrification of the Veterinary College, Bombay ..	3,950

152 special repair works were carried out during the year. The total expenditure incurred on repairs was:—

	Rs.
Ordinary repairs	1,47,314
Special repairs	43,328
Total ..	1,90,642

*Excludes percentage charges.

C. Communications.

The total expenditure incurred under this head during the year 1935–36 was as under :—

	Rs.
On Works	13,22,112
On Repairs	26,33,425
Total ..	39,55,537

The principal works financed from ordinary revenues during the year were :—

Dhadgaon-Shahada Road, Section IV ..	Khandesh Division.
Improvements to Taloda-Shahada Road, Sections I and II.	
Improving Gadag-Hesrur Section of the Karwar-Bellary Road.	Dharwar Division.
Improving Sadashivgad-Kadra Road ..	Kanara Division.

The following works were financed from the Petrol Tax Fund and the expenditure incurred on them during the year was as shown below :—

Constructing a submersible bridge of R. C. C. deck girder type over the Karha river at Baramati—Rs. 54,823.	Poona Irrigation Division.
Constructing Talasari-Vapi Section (miles 0–16—Rs. 1,02,021.	Thana Division.
Constructing high level causeway over Balganga river and diversion in mile 4/7 of the Panvel-Pen Section—Rs. 26,620.	
Constructing a bridge over the Pinjal river in mile 9/2 of Khodala-Mokhada Road—Rs. 1,549.	
Constructing a R. C. C. bridge with approaches over the Patalganga river near Khaparda in mile 7/6 of the Pen-Panvel Road—Rs. 37,171.	
Constructing diversion outside Thana Town, Bombay-Agra Road—Rs. 7,069.	
Improvements to cross drainage works in miles 37–45 of the Bombay-Agra Road—Rs. 4,042	
Improvements to the soft portions in miles 29 and 32 to 67 of the Bombay-Poona Road—Rs. 10,500.	

CONSTRUCTING HIGH LEVEL CAUSEWAY OVER THE BALGANGA RIVER IN MILE No. 4/7 OF PEN PANVEL ROAD, SECTION OF BOMBAY KONKAN GOA ROAD IN PANVEL SUB-DIVISION.

Date of Photo	...	5th April 1936.
Date of commencement of work	...	February 1934.
Estimated cost (Revised) ...	...	Rs. 46,000.
Total expenditure to date ...	...	Rs. 45,035.

R. C. C. BRIDGE OVER THE RIVER KUKADI NEAR PIMPALWANDI ON POONA NASIK ROAD MILE No. 53—
DOWN STREAM ELEVATION.

Date of Photograph	...	2nd June 1936.
Date of commencement of the work	...	15th March 1935.
Estimated Cost	...	Rs. 58,620.
Total expenditure to end of 1935-36	...	Rs. 38,004.
Work completed or in progress ...	...	Nearing completion.

Providing $2\frac{1}{2}''$ asphalt macadam surface in miles 18 to 22 of the Bombay-Agra Road—Rs. 34,999.	Thana Division.
Constructing a masonry arched bridge over the Kaveri river in mile 46/4 and raising and improving the Kurla-Vihigaon Road in mile 46/5 of the Bombay-Agra Road—Rs. 3,001.	
Making a survey for the proposed improvements to the existing Pen-Panvel Road—a section of Bombay-Konkan-Goa Road—Rs. 2,298.	
Diversion round Pardi on Vapi-Bulsar Section—Rs. 2,934.	Surat and Broach Division.
Improving miles 4 to 9/6 of Matwad-Navsari Section (land compensation)—Rs. 1,362.	
Raising the North-Western approach of the Hope Bridge at Surat (a portion of Surat-Sahol Section miles 2 and 3)—Rs. 8,175.	
Raising the North-Western approach of the Hope Bridge at Surat (within the limits of the Hope Bridge Committee)—Rs. 2,994.	
Constructing cross drainage works on Dohad-Alirajpur Road—Rs. 15,645.	Kaira and Panch Mahals Division.
Providing rubble stone bedding and re-metalling portions of Dohad-Alirajpur Road—Rs. 15,492.	
Constructing a high level causeway on Sarvani nalla in mile 6/6 of Kaira-Bareja Road—Rs. 8,299.	
Metalling and improving the road from Viramgam to Mandal—Rs. 38,416.	Ahmedabad Division.
Making improvements to the low-lying miles 75-84 on the Poona side of Khandala on Khandala-Poona Section of the Bombay-Poona-Bangalore Road—Rs. 9,500.	Poona Division.
Modernising of roads in Poona—Rs. 94,480.	
Providing a submersible bridge over the Kukadi river at Pimpalwandi in mile 53 of Poona-Nasik Road—Rs. 37,019.	
Improving Khambharli ghat (miles 39-47 west from Karad)—Rs. 7,621.	
Reconstructing the portion of the Poona-Sholapur Road from Bahiroba Nalla to Hadapsar on the Bombay-Poona-Sholapur-Hyderabad Road—Rs. 60,000.	

Asphalting the portion from the Sholapur Railway Station to the Panjrapol on the Bombay-Poona-Sholapur-Hyderabad Road —Rs. 20,250.	Sholapur Division.
Asphalting the portion near the Municipal water works pumping station at Sholapur on the Bombay-Poona-Sholapur-Hyderabad Road—Rs. 6,350.	
Constructing a road from Yedshi to Chausala—Rs. 13,721.	
Improvements to the road from Yedshi to Osmanabad—Rs. 11,037.	
Construction of a bridge to replace the existing dangerous bridge over the Mosam river at Malegaon on Vihigaon-Nasik-Malegaon Section of the Bombay-Agra Road—Rs. 17,222. ..	Nasik Division.
Improving the low-lying portions of the Bombay-Agra Road between Ghoti and Igatpuri—Rs. 35,362.	
Extension from Edlabad to Ichhapur on Surat-Dhulia-Bhusawal-Edlabad-Nagpur Road—Rs. 13,000.	Khandesh Division.
Constructing a bridge over the Bhamburda river in mile 11/8 of the Math-Kasal Road—Rs. 52,200.	Belgaum Division.
Asphalting roads in and round about Belgaum—Rs. 452.	
Asphalting miles 261 to 263 of the Poona-Bangalore Road—Rs. 34,703.	Dharwar Division.
Asphalting miles 267 to 270—Rs. 44,012 ..	
Purchasing premix plant for the work of asphalting miles 261 to 263 and 267 to 270 of the Poona-Bangalore Road—Rs. 13,062.	
Construction of causeways over certain nallas between Navalgund, Nargund and Konnur on the Hubli-Sholapur Road as under :—	
(*a*) Causeway over Yelvi nalla in mile 29/5 .. Rs. 4,033	
(*b*) Causeway over Sasvigudi nalla in mile 27/2 .. Rs. 9,622	
(*c*) A paved dip in mile 44/3 .. Rs. 828	
(*d*) Causeway over Hira nalla in mile 31/8 .. Rs. 14,084*	

*Represents expenditure during and to end of the year.

(*e*) Causeway over nalla in mile 36/1 .. .. 10,993*	Dharwar Division.
(*f*) Causeway over nalla in mile 37/7 .. .. 7,620*	
(*g*) A paved dip in mile 34/3 .. 2,799*	
Improvements to Hubli-Sholapur Road—Miles 39 to 46 of Konnur-Nargund Section—Rs. 19,964.	
Improving Dharamtar-Mahableshwar Road by raising certain portions in Section I from Dharamtar to Dasgaon—Miles 13 to 56 (Vadkal-Mahad Section)—Rs. 13,677.	Ratnagiri Division.
Widening the Kashedi-Khavti Ghat Road in miles 84 to 88 of Hatkhamba- Poladpur Road—Rs. 12,006.*	
Constructing 6 culverts in Section I of Hatkhamba-Poladpur Road (Khed-Poladpur Section)—Rs. 18,105.*.	
Constructing 5 culverts in Section II of Hatkhamba-Poladpur Road—Rs. 24,419.	
Masonry drains with R. C. C. slabs over 9 small nallas in Section III of Hatkhamba-Poladpur Road—Rs. 4,120.	
Bridge over Beni Nalla in mile 10 of Pali-Phonda Road—Rs. 6,798.	
Masonry drains with R. C. C. slabs over 15 nallas and 1 culvert over large nalla in Section I of Pali-Phonda Road—Rs. 9,333.	
Constructing a R. C. C. bridge over the Rajapur Creek at Rajapur in Section II of Pali-Phonda Road—Rs. 25,835.*	
Constructing masonry drains with R. C. C. slabs over 20 small nallas in Section II of Pali-Phonda Road—Rs. 13,046.*	
Masonry bridge over the Piyali river in Section III of Pali-Phonda Road (Kasarda-Phonda Section)—Rs. 57,953.*	
Improving the Karwar-Bellary Road—Miles 1 to 75—Rs. 5,930.*	Kanara Division.
Improving Kumta-Hubli Road—Rs. 38,554.	
Improving Khanapur-Yellapur Road—Rs. 18,042.	
Causeway over Mavinhalla creek in mile 2/1 of Sadashivgad-Goa Frontier Road—Rs. 4,058.	

* Represents expenditure during and to end of the year.

Arboriculture.

Nurseries were maintained at various places and the planting, watering and protection of road-side trees continued to receive attention as usual. About 15,983 trees were planted during the year along provincial and local fund roads.

D. Miscellaneous.

Public Health, Water Supply and Drainage Works, etc.

The expenditure during the year under the head 56A-Capital Outlay on Improvement to Public Health amounted to Rs. 85,415.

During the year under report the pumping machinery at Pandharpur, Sholapur, Nasik, Karad, Poona, Holkar's Bridge, Alandi, Uran, Shingnapur water works were inspected and necessary repairs arranged for and estimates for water supply at Visapur Jail and pumping plant for Mahableshwar were prepared. 32 road rollers and two portable engines were inspected. The work of remodelling the Mutha Right Bank Canal by fixing iron gates for dividing it into sections for accelerating the emptying of the canal was in progress. This work was undertaken in order to enable the impounding of a sufficient water supply for the Cantonment and Poona City Water Works. A new self-supporting gusseted steel chimney was erected in the compound of the Poona Water Works. A Green's economiser was also erected in that compound at a cost of Rs. 22,803. A fifth instalment of Rs. 25,000 was paid to the Military authorities against the total purchase value of Rs. 5,00,000 for the Kirkee Water Supply Works.

The following works were either completed or in progress :—

	Rs.
(1) Laying 3″ C. I. pipe line for Aund-Bopodi Road	3,402
(2) Constructing a new workshop in the compound of the Poona Water Works	5,000
(3) Investigation of the potability of the water in Powai Lake as a source for supply of water in Salsette	729
(4) Installation of a new Crude Oil engine pumping set at the Pandharpur Water Works ..	19,645
(5) Improvements to the water supply scheme at Khed	60,663
(6) Improvements to Chiplun Water Supply ..	37,373

The following important works were maintained during the year :—

	Rs.
Poona Water Works	1,74,048
Kirkee Water Supply	60,143
Bahiroba Pumping Station	1,07,224
Ratnagiri Water Supply	2,429

POONA IRRIGATION DIVISION.

Submersible Bridge R. C. C. Deck Girder Type over the Karha River at Baramati.
Side view from down stream facing Baramati Town.

The Deposit Contribution works carried out during the year were as under :—

	Rs.
Providing Venturi Meter at low level and subsidiary stations in Poona City	17,900
Providing washouts on the Poona outfall sewer and a Lea Recorder at the end of the Poona City drain	27,311
Alandi Water Supply	4,884
Matheran Water Supply	9,143
Maintenance and repairs to the outfall sewer, Poona City	1,539
Miscellaneous petty works for private and local bodies and Military authorities	5,000

E. Technical Papers.

The following Public Works Department technical papers were issued during the year :—

No. 54.—Note on experiments with a model of the Head Sluices of the Nira Left Bank Canal by C. C. Inglis, B.A., B.A.I., M.Inst.C.E., Superintending Engineer, Deccan Irrigation Circle, and D. V. Joglekar, B.E., Assistant Engineer.

No. 55.—Note on investigations carried out by means of models at the Khadakvasla Hydrodynamic Research Station, near Poona, in connection with the protection of the Hardinge Bridge which spans the River Ganges near Paksey—Eastern Bengal Railway, by C. C. Inglis, C.I.E., B.A., B.A.I., M.Inst.C.E., I.S.E., Superintending Engineer, Deccan Irrigation Circle, and D. V. Joglekar, B.E., Assistant Engineer.

F. Railways.

The railways situated within the Bombay Presidency (excluding Sind) are not administered by this Government but are under the general control of the Railway Board.

2. As in the previous years the railway budget for the year 1936–37 is again a deficit one. The total deficit for the year 1936–37 inclusive of the loss on strategic lines is estimated at Rs. 3·44 crores compared with a deficit of Rs. 4·54 crores in the year 1935–36.

3. No new lines were opened for traffic in the Bombay Presidency (excluding Sind) during the year 1935–36.

4. New traffic surveys of the following projects were carried out during the year :—

(1) Baramati-Pandharpur Railway Project in the Nira Valley Area.

(2) Project for a railway line between the Akalkot Road Railway Station and Akalkot Town in the Akalkot State.

Project No. (1) is under the consideration of this Government and Project No. (2) is under the consideration of the Akalkot Darbar.

5. The Indian States within the geographical limits of the Bombay Presidency (excluding Sind) have with effect from 1st April 1933 been brought into direct political relations with the Government of India.

6. The total length of the railways in the Presidency (excluding Sind and Indian States) open for traffic during the year under review was 2,390·196 miles made up as shown below :—

—	Broad gauge.	Metre gauge.	Narrow gauge.	Total.
	Miles.	Miles.	Miles.	Miles.
Bombay, Baroda and Central India Railway.	541·218	120·909	142·809	804·936
Great Indian Peninsula Railway	822·321	....	62·064	884·385
Madras and Southern Mahratta Railway.	....	587·875	....	587·875
Barsi Light Railway ..	....	....	113·000	113·000
	1,363·539	708·784	317·873	2,390·196

G. Development Schemes.

Back Bay Reclamation Scheme.

The total expenditure incurred on the Back Bay Reclamation Scheme during the year 1935–36 amounted to Rs. 6,76,236. The following works were carried out during the year :—

(1) A quantity of about 6,94,050 cubic feet of suitable building debris which was obtained free of cost was conveyed and deposited in Block No. 7 at a total cost of Rs. 3,492. The construction of a road from the South end of Cuffe Parade to the South end of Block No. V complete with drains and lighting arrangements (with the exception of paving of footpaths on both sides of the road) was completed and the road was handed over to the Bombay Municipality for maintenance in January 1936 and is now open for traffic. The sanctioned scheme of sewers on Queen's Road, the extension of Churchgate Street and certain subsidiary roads was completed. The provision of surface drainage for and the construction of the extension of Churchgate

ANGLO URDU HIGH SCHOOL FOR BOYS AT POONA.

Date of Photograph	26th May 1936.
Date of commencement of work	12th March 1935.
Estimated cost (reduced)	Rs. 1,14,754.
Total expenditure to end of 1935-36 ...	Rs. 1,03,681.
Work completed or in progress	Completed.

Street and certain other lengths of roads in the North-East portion of Block No. II were entrusted to the Bombay Municipality. The work is estimated to cost Rs. 2,60,309 and was in progress. The construction of the Marine Drive to a partial width of 40 feet including a footpath 10 feet wide on the West side, from the Churchgate Street Extension to Chowpatty along the sea wall, was undertaken during the year. The work is estimated to cost Rs. 4,32,000 and was in progress. The planting of trees along certain roads in the Reclamation area which was commenced in 1932 was completed during the year.

(*ii*) *Sanitary and anti-malarial measures.*—The responsibility for sanitary and anti-malarial measures in Blocks I, II and VII of the Back Bay Reclamation Scheme was transferred to the Bombay Municipality with effect from 1st December 1933 in consideration of an annual payment of Rs. 4,775 by Government. The work was satisfactorily carried out during the year.

(*iii*) *Repairs and Maintenance.*—The expenditure incurred during the year 1935–36 on repairs and maintenance in connection with the scheme amounted to Rs. 37,101. The expenditure on important items included in this sum were :—

	Rs.
(*a*) New sea wall and rubble mound ..	7,633
(*b*) " Katcha " roads in Blocks I and II ..	6,491

(*iv*) Miscellaneous articles of surplus stores, plant, machinery, etc., were disposed of during the year. The total realisations amounted to Rs. 6,943.

(*v*) A list of the members of the Standing Advisory Committee for the Back Bay Reclamation Scheme will be found in Appendix VII.

II. Suburban Schemes.

(*i*) *Water Supply.*—During the year under report the laying of branch pipe lines and miscellaneous extensions, and the purchase and supply of meters of different sizes to the public in Salsette were undertaken. The survey work in connection with the Kanhery Valley Project which is intended to provide an independent source of water supply to Salsette was in progress. The expenditure on new works and on repairs and maintenance to pipes amounted to Rs. 13,207 and Rs. 17,098, respectively. The cost of purchasing water from the Bombay Municipality amounted to Rs. 3,11,398.

The total expenditure and receipts on the Salsette and Ambernath Water Supply Schemes were :—

	Expenditure.	Receipts.
	Rs.	Rs.
Salsette Water Supply Scheme ..	3,41,703	5,73,571
Ambernath Water Supply Scheme ..	25,369	27,811

(*ii*) *Ambernath Electric Supply.*—The expenditure and receipts on this scheme amounted to Rs. 11,294 and Rs. 15,981, respectively.

APPENDIX I.

Statement showing expenditure on Civil and Military Works during the year 1935–36.

Service Heads	Original Works		Repairs		Total	
	Grant	Outlay	Grant	Outlay	Grant	Outlay
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
8—*Military Works.*						
Works—Non-voted ..	..	..	4,500	4,464	4,500	4,464
Establishment—Non-voted ..	..	..	..	..	1,125	312
Establishment—Voted	..	..	..	..	....	1,227
Tools and Plant—Non-voted ..	..	..	..	..	135	.....
Voted	..	..	..	..	....	62
Total, Military Works. Non-voted.	..	..	4,500	4,464	5,760	4,776
Total, Military Works. Voted ..	..	..	..	..	..	1,289
41—*Civil Works—Central (Bombay Presidency).*						
Buildings—Non-voted	1,860	1,787	26,553	26,093	28,413	27,880
Buildings—Voted ..	85,109	83,942	1,91,500	1,88,931	2,76,609	2,72,873
Miscellaneous—Voted.	..	..	6,000	6,023	6,000	6,023
Establishment—Voted	..	..	..	..	67,830	78,959
Establishment—Non-voted	..	..	..	..	6,960	26,423
Tools and Plant—Voted	..	..	..	..	2,391	4,248
Grants-in-aid—Non-voted	..	..	..	..	3,147	3,113
Total, 41—Civil Works—Central ..	86,969	85,729	2,24,053	2,21,047	3,98,350	4,19,519
41—*Civil Works—Provincial.*						
Buildings—Reserved .	49,000	48,904	1,95,000	1,93,549	2,44,000	2,42,453
Buildings—Transferred ..	5,12,214	4,80,941	40,63,127	40,42,980	61,26,120	60,58,970
Communications do.	15,36,107	15,30,186				
Miscellaneous do.	14,672	—4,137				
Carried over ..						

Service Heads	Original Works		Repairs		Total	
	Grant	Outlay	Grant	Outlay	Grant	Outlay
1	2	3	4	5	6	7
Brought over ..	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
41—*Civil Works—Provincial*—contd.						
Establishment—Reserved—Non-voted ..	..	..	..	..	....	24,371
Voted	..	..	..	..	....	66,685
Establishment—Transferred—Non-voted ..	..	..	..	..	13,57,704	4,93,789
Voted	..	..	..	..	49,97,168	16,42,901
Tools and Plant—Reserved ..	..	..	..	..	....	3,978
Tools and Plant—Transferred ..	..	..	..	..	2,53,077	1,75,733
Grant-in-aid ..	..	..	..	..	9,87,711	9,85,042
Suspense ..	..	..	..	..	6,485	25,245
Deduct—English Cost of Stores and Establishment—Stores—Transferred ..	..	..	..	..	−8,000	−3,970
Establishment—Transferred—Non-voted ..	..	..	..	..	−2,38,800	−2,61,224
Voted	..	..	..	..	−15,200	−9,251
Loss or Gain by Exchange—Stores, Voted ..	..	..	..	..	....	−20
Establishment—Non-voted ..	..	..	..	..	....	−1,360
Establishment—Voted..	..	..	..	..	....	−47
Expenditure in England—Stores, Voted ..	..	..	..	..	4,120	3,990
Establishment—Non-voted	..	..	..	..	....	2,62,585
Establishment—Voted.	..	..	..	..	....	9,299
Total, 41—Civil Works—Provincial.	21,11,993	20,64,894	42,58,127	42,36,529	1,37,14,385	97,19,169
60—*Civil Works—Provincial.*						
Buildings ..	1,59,600	1,56,577	..	..	1,59,600	1,56,577
Communications ..	2,400	2,405	..	..	2,400	2,405
Miscellaneous ..	..	..	..	..	....	....
Establishment—Non-voted ..	..	..	..	..	....	7,100
Establishment—Voted..	..	..	..	..	259	30,675
Tools and Plant ..	..	..	..	..	....	1,070
Total, 60—Civil Works—Provincial.	1,62,000	1,58,982	..	..	1,62,259	1,97,827
District Local Fund ..	..	..	..	..	....	7,232
Deposit Contribution ..	..	..	..	..	....	3,44,098
Grand Total ..	23,60,962	23,09,605	44,86,680	44,62,040	1,42,80,754	1,06,93,910

Note.—The figures of grant and expenditure under 41—Civil Works, Central and Provincial, and 60—Civil Works, are both for the Bombay Presidency and Sind.

APPENDIX II.

APPENDIX

Statement of roads not within Municipal limits, giving lengths of metalled during the

Name of Circle.	Name of Division.	Length of metalled roads maintained by the Public Works Department.	Length of unmetalled roads maintained by the Public Works Department.	Length of metalled roads maintained by the Local Authorities.
1	2	3	4	5
		Miles.	Miles.	Miles.
Northern Circle ..	Thana	(*a*)447·55	(*b*)	(*c*)416·38
	Surat	(*f*)184·62	(*g*)8·55	(*h*)138·18
	Broach	53·98	....	34·83
	Kaira	179·90	9·13	(*k*)60·50
	Panch Mahals ..	156·28	17·50	(*m*)32·13
	Ahmedabad ..	(*o*)157·14	(*p*)44·80.	59·61
	Total—Northern Circle ..	1,179·47	79·98	741·63

Note.—The lengths of Provincial roads included in columns 3 and 4 of the above Municipalities in the Bombay Presidency are not now required to contribute towards the shown in the remarks column.

(*a*) The increase of 10·23 miles as compared with the previous report is due to the during the year.

(*b*) The decrease of 5·63 miles in the unmetalled length is due to the de-provincialisa to Peth during the year.

(*c*) and (*d*) The decrease of 5·05 miles and ·83 miles in columns 5 and 6 as compared Areas and in the Bombay Suburban District having been transferred to the Local Bodies

(*e*) The decrease of 4·12 miles in column 9 is due to the verification of the actual

(*f*) The increase of ·97 miles in column 3 is due partly to the addition of the length of unmetalled lengths being metalled during the year.

(*g*) The decrease of ·89 miles is due to certain unmetalled lengths being metalled during

(*h*) The increase of ·85 miles is due to certain unmetalled lengths being metalled by the

(*i*) The increase of 1·74 miles in the unmetalled length is due to the addition of certain year.

(*j*) The increase of 1·99 miles is due to the addition of certain lengths newly taken up

(*k*) The increase of ·9 miles in the metalled length is due to the addition of new length

(*l*) The increase of 7·49 miles is due to the addition of the lengths of certain roads by

(*m*) The increase of 1·64 miles in the metalled length is due to certain unmetalled

(*n*) The decrease of 2·64 miles is due partly to the reasons given in (*m*) above and during the year.

(*o*) The increase of 11·01 miles in the metalled length is due partly to some portion of road to the Public Works Department during the year.

(*p*) The decrease of 4·50 miles in the unmetalled length is due to some portion of

II.

and unmetalled roads maintained by the Public Works Department and Local Authorities. year 1935–36.

Length of unmetalled roads maintained by the Local Authorities.	Total length of metalled roads.	Total length of unmetalled roads.	Remarks.	
			Metalled roads maintained by the Public Works Department in Municipal limits.	Unmetalled roads maintained by the Public Works Department in Municipal limits.
6	7	8	9	10
Miles.	Miles.	Miles.	Miles.	Miles.
(*d*)271·54	863·93	271·54	(*e*)26·71	....
(*i*)315·42	322·80	323·97	....	....
(*j*)192·80	88·81	192·80	1·36	....
(*l*)19·50	240·40	28·63	10·61	....
(*n*)15·62	188·41	33·12	1·38	....
299·46	216·75	344·26	....	....
1,114·34	1,921·10	1,194·32	40·06	....

statement are exclusive of the portions passing through the Municipal limits. The maintenance of Provincial roads passing through the limits and the lengths of these are

addition of the length of Talasari-Vapi road sections I and II having been completed

tion of (*i*) the Bridle path from Khandus to Tembra and (*ii*) Bridle path from Ambivali

with the previous report is due to sections of terminal roads in Municipal and Notified concerned during the year.

length in Municipal limits, the correct length thus arrived being now shown.

the diversion of Bulsar-Vapi road completed during the year and partly to certain

the year.

Board during the year.

lengths newly constructed and newly taken up for maintenance by the Board during the

for maintenance by the Board during the year.

by the Board during the year.

the Board during the year.

lengths being metalled by the Board during the year.

partly to the adoption of correct lengths of roads after actual verification by the Board

Viramgam-Mandal road being metalled and partly to the retransfer of the Sadra-Dabhoda

Viramgam-Mandal road being metalled during the year.

APPENDIX

Name of Circle.	Name of Division.	Length of metalled roads maintained by the Public Works Department.	Length of unmetalled roads maintained by the Public Works Department.	Length of metalled roads maintained by the Local Authorities.
1	2	3	4	5
		Miles.	Miles.	Miles.
Central Circle ..	Poona	512·89	14·62	(*a*)305·10
	Sholapur	(*c*)479·36	(*d*)75·90	(*e*)358·00
	Nasik	(*h*)461·97	9·22	(*i*)175·25
	Khandesh	665·31	16·12	(*l*)310·94
	Total—Central Circle ..	2,119·53	115·86	1,149·29

Note.—(*a*) The increase of 41·81 miles as compared with the previous report is due to

(*b*) The decrease of 44·56 miles as compared with the previous report is partly due to roads (cart tracks) having been taken over for maintenance by the District Local Board,

(*c*) The increase of 2·21 miles as compared with the previous report is partly due to the roads into metalled roads.

(*d*) The decrease of ·56 miles is due to the reasons given in (*c*) above.

(*e*) The increase of 5·72 miles is due to certain unmetalled lengths having been metalled

(*f*) The increase of 15·72 miles is due to some cart tracks having been taken over for metalled during the year.

(*g*) The increase of ·31 miles is due to the adoption of correct lengths of certain roads.

(*h*) The decrease of 9·76 miles as compared with the previous report is due to the the adoption of correct lengths of certain roads.

(*i*) The increase of about 10 miles is due to the transfer of the Nandgaon-Aurangabad roads.

(*j*) The increase of 19·74 miles is due to the adoption of correct lengths of certain

(*k*) The decrease of ·89 miles is due to the reasons given in (*h*) above.

(*l*) The increase of 9·98 miles is due to the construction of new roads by the District

(*m*) The increase of 32·98 miles is due to the construction of new roads by the Local

II—*contd.*

Length of unmetalled roads maintained by the Local Authorities.	Total length of metalled roads.	Total length of unmetalled roads.	Remarks.	
			Metalled roads maintained by the Public Works Department in Municipal limits.	Unmetalled roads maintained by the Public Works Department in Municipal limits.
6	7	8	9	10
Miles.	Miles.	Miles.	Miles.	Miles.
(*b*)2,379·26	817·99	2,393·88	65·34	....
(*f*)977·19	837·36	1,053·09	(*g*)32·75	2·50
(*j*)1,504·98	637·22	1,514·20	(*k*)18·69	0·30
(*m*)693·10	976·25	709·22	32·26	1·53
5,554·53	3,268·82	5,670·39	149·04	4·33

certain unmetalled lengths having been metalled during the year.

conversion of certain unmetalled lengths into metalled roads and to some lengths of Satara.

adoption of correct lengths of certain roads and partly to the conversion of unmetalled

during the year.

maintenance by the District Local Board less certain unmetalled lengths having been

transfer of the Nandgaon-Aurangabad Road to the District Local Board, Nasik, and to

Road to the District Local Board, Nasik, and to the adoption of correct lengths of certain

roads.

Local Boards during the year.

Boards.

APPENDIX

Name of Circle.	Name of Division.	Length of metalled roads maintained by the Public Works Department.	Length of unmetalled roads maintained by the Public Works Department.	Length of metalled roads maintained by the Local Authorities.
1	2	3	4	5
		Miles.	Miles.	Miles.
Southern Circle ..	Belgaum Division ..	(a)621·09	(b)89·33	(g)295·99
	Dharwar Division ..	549·77	(c)99·48	(g)550·37
	Ratnagiri Division ..	(d)481·36	....	(g)412·78
	Kanara	(e)464·78	113·27	(g)108·56
	Total—Southern Circle ..	2,117·00	302·08	1,367·70

(a) The increase of 19·19 miles as compared with the previous report is due to the portion of the Sholapur-Hubli Road having been metalled during the year.

(b) The decrease of 1·02 miles is due to a portion of the Sholapur-Hubli Road—

(c) The increase of ·41 miles is due to the construction of the approach roads to the

(d) The decrease of about 19 miles is due to the retransfer of the Math-Kasal Road to

(e) The increase of 78·98 miles is due to lengths of unmetalled roads having been excluded now.

(g) The lengths of metalled and unmetalled roads maintained by Local Board

II—*contd.*

Length of unmetalled roads maintained by the Local Authorities.	Total length of metalled roads.	Total length of unmetalled roads.	Remarks.	
			Metalled roads maintained by the Public Works Department in Municipal limits.	Unmetalled roads maintained by the Public Works Department in Municipal limits.
6	7	8	9	10
Miles.	Miles.	Miles.	Miles.	Miles.
(*g*)448·21	917·08	537·54	21·50	....
(*g*)367·67	1,100·14	467·15	19·95	4·49
(*g*)086·33	894·14	986·33	17·36	....
(*g*)512·40	573·34	625·67	19·49	3·83
2,314·61	3,484·70	2,616·69	78·30	8·32

retransfer of the Math-Kasal Road from the Ratnagiri Division, and addition of certain

I section having been metalled during the year.

causeway over the Benni-Nalla on Sholapur-Hubli Road.

the Belgaum Division.

metalled from time to time as also a length of about 2 miles under ferries having been

Authorities shown herein are as now reported by the Local Boards concerned.

APPENDIX

Name of Circle.	Name of Division.	Length of metalled roads maintained by the Public Works Department.	Length of unmetalled roads maintained by the Public Works Department.	Length of metalled roads maintained by the Local Authorities.
1	2	3	4	5
		Miles.	Miles.	Miles.
Deccan Irrigation Circle.	Poona Irrigation Division.	263·40	....	....
	Nira Right Bank Canal Division.	30·40	....	....
	Ahmednagar Division ..	298·80	57·60	(a)185·20 297·20
				(b)482·40
	Nasik Irrigation Division.	47·00	....	....
	Total—Deccan Irrigation Circle.	639·60	57·60	482·40

(a) Length of miles 185·20 are provincial roads maintained by the District Local Board,

(b) The increase of 8 miles as compared with the previous report is due to the

II—*concld.*

Length of unmetalled roads maintained by the Local Authorities.	Total length of metalled roads.	Total length of unmetalled roads.	Remarks.	
			Metalled roads maintained by the Public Works Department in Municipal limits.	Unmetalled roads maintained by the Public Works Department in Municipal limits.
	7	8	9	10
Miles.	Miles.	Miles.	Miles.	Miles.
....	263·40	....	0·80	....
....	30·40	....	2·00	....
292·50	781·20	350·10	6·30	....
....	47·00	....	....	....
292·50	1,122·00	350·10	9·10	....

Ahmednagar.

corresponding length in column 6 having been metalled during the year.

APPENDIX III.

Mileage of surfaced roads of various classes and motorable earth roads as on 31st March 1936.

Province or State.	Water bound macadam.					
	Stone metal only.			Kunkar, laterite or brick metal.		
1	2			3		
	P. W. D.	Local.	Total.	P. W. D.	Local.	Total.
BOMBAY.						
Northern Circle	1,116·64	1,066·81	2,183·45	65·16	125·27	190·43
Central Circle	2,252·62	1,389·78	3,642·40	22·84	46·20	69·04
Southern Circle	1,670·30	1,025·51	2,695·81	495·99	459·02	955·01
Deccan Irrigation Circle ..	830·93	322·80	1,153·73	..	..	..
Total ..	5,870·49	3,804·90	9,675·39	583·99	630·49	1,214·48

Province or State.	Other low type surfaces (murum, gravel, sand, clay).			Surface treated with tar, pitch, asphalt or bitumen.		
1	4			5		
	P. W. D.	Local.	Total.	P. W. D.	Local.	Total.
BOMBAY.						
Northern Circle	37·47	560·19	597·66	21·11	140·20	161·31
Central Circle	129·06	2,818·92	2,947·98	3·47	30·93	34·40
Southern Circle	303·42	1,481·54	1,784·96	1·95	..	1·95
Deccan Irrigation Circle ..	57·50	315·30	372·80	2·90	..	2·90
Total ..	527·45	5,175·95	5,703·40	29·43	171·13	200·56

Province or State.	Bitumen, asphalt, tar or pitch grouted macadam.			Premix bitumen, asphalt, tar or pitch.		
1	6			7		
	P. W. D.	Local.	Total.	P. W. D.	Local.	Total.
BOMBAY.						
Northern Circle	14·38	23·66	38·04	4·24	57·28	61·52
Central Circle	6·62	0·31	6·93	4·32	15·25	19·57
Southern Circle	7·92	..	7·92	6·89	..	6·89
Deccan Irrigation Circle ..	..	..	..	..	..	..
Total ..	28·92	23·97	52·89	15·45	72·53	87·98

Province or State.	Cement concrete or macadam.			Fair-weather motorable earth roads.		
1	8			9		
	P. W. D.	Local.	Total.	P.W. D.	Local.	Total.
BOMBAY.						
Northern Circle	0·04	4·97	5·01	40·43	522·98	563·41
Central Circle	1·57	0·76	2·33	..	758·42	758·42
Southern Circle	..	..	..	16·01	807·27	823·28
Deccan Irrigation Circle ..	..	..	..	..	..	..
Total ..	1·61	5·73	7·34	56·44	2,088·67	2,145·11

Province or State.	Other motorable roads which cannot be classified under previous headings.			Remarks.
1	10			11
	P. W. D.	Local.	Total.	
BOMBAY.				
Northern Circle ..	2·50	268·90	271·40	
Central Circle	10·19	26·17	36·36	
Southern Circle	..	7·50	7·50	
Deccan Irrigation Circle ..	..	..	..	
Total ..	12·69	302·57	315·26	

APPENDIX

Statement showing the expenditure on Provincial Buildings and

	1921-22		1922-23		1923-24	
	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(i) Expenditure on buildings for original works	70,17,468	..	18,40,250	21,36,237	12,74,148	46,74,102
(ii) Expenditure on buildings for maintenance	11,03,937	..	13,79,087	..	15,09,041	..
(iii) Expenditure on metalled Provincial roads for original works	19,39,046	..	15,22,488	6,04,035	10,92,068	4,54,014
(iv) Expenditure on unmetalled Provincial roads for original works	5,00,155	..	97,110	20,903	72,046	20,043
(v) Expenditure on metalled Provincial roads for maintenance	19,85,510	..	24,27,684	..	26,60,387	..
(vi) Expenditure on unmetalled Provincial roads for maintenance	2,53,711	..	2,35,632	..	2,83,378	..

IV.

Roads in the Presidency Proper from 1921–22 to 1935–36.

1924–25		1925–26		1926–27		1927–28	
41–C.W. Provincial.	60–C.W.	41–C.W. Provincial.	60–C.W.	41–C.W. Provincial.	60–C.W.	41–C.W. Provincial.	60–C.W.
8	9	10	11	12	13	14	15
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
11,72,871	36,09,799	12,24,807	38,98,209	22,22,421	17,71,645	9,72,027	13,90,972
14,69,217	..	15,22,903	....	15,95,217	..	17,04,033	..
5,35,719	24,18,810	8,30,136	11,41,309	11,19,552	4,09,201	7,95,102	5,26,052
63,591	1,14,266	1,36,210	33,048	2,50,893	..	1,65,007	..
27,73,938	..	28,80,514	....	30,98,552	..	32,12,327	..
2,81,022	..	2,53,438	....	2,55,920	..	2,82,958	..

APPENDIX

—	1928-29		1929-30		1930-31		1931-
	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.
1	16	17	18	19	20	21	22
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(*i*) Expenditure on buildings for original works	9,61,174	19,07,442	8,88,923	22,83,762	7,15,423	4,32,192	2,38,311
(*ii*) Expenditure on buildings for maintenance ..	16,43,248	..	15,91,742	..	15,54,193	..	13,73,726
(*iii*) Expenditure on metalled Provincial roads for original works	7,40,068	5,42,195	5,81,922	5,41,635	3,07,467	4,85,007	1,39,416
(*iv*) Expenditure on unmetalled Provincial roads for original works ..	1,05,960	..	1,11,174	..	81,815	..	29,564
(*v*) Expenditure on metalled Provincial roads for maintenance	30,99,797	..	30,95,981	..	29,37,136	..	28,68,480
(*vi*) Expenditure on unmetalled Provincial roads for maintenance ..	2,67,776	..	2,54,990	..	2,98,830	..	2,30,071
(*vii*) Expenditure from Road Development Fund in connection with Provincial roads for original works ..	..	..	..	..	3,00,076	..	7,35,418
(*viii*) Expenditure from Road Development Fund in connection with Provincial roads for maintenance ..	..	..	..	..	..	..	..

IV—*contd.*

32	1932–33		1933–34		1934–35		1935–36	
60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.
23	24	25	26	27	28	29	30	31
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
20,397	2,51,734	1,339	2,46,766	11,002	3,19,300	..	4,21,114	..
..	9,88,704	..	11,83,317	..	12,07,928	..	11,94,726	..
2,91,305	1,26,240	1,55,554	1,17,263	51,711	1,13,558	23,462	1,45,887	2,405
..	23,447	..	23,622	..	7,724	..	4,620	..
..	23,36,968	..	24,82,335	..	24,45,526	..	24,60,031	..
..	1,61,682	..	1,60,738	..	1,50,635	..	1,56,294	..
..	9,06,785	..	8,08,461	..	6,77,174	..	11,69,200	..
..	13,078	..	26,253	..	44,383	..	16,500	..

APPENDIX

Statement showing the expenditure on District Local Board Roads in the 1921-22

—— 1	1921-22. 2	1922-23. 3	1923-24. 4	1924-25. 5	1925-26. 6	1926-27. 7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(1) Expenditure on metalled District Local Board roads for original works in the Presidency proper ..	1,30,641	2,11,788	2,45,035	1,85,618	2,22,085	2,14,017
(2) Expenditure on unmetalled District Local Board roads for original works in the Presidency proper ...	1,60,724	94,250	1,28,734	1,17,791	1,78,703	2,97,654
(3) Expenditure on metalled District Local Board roads for maintenance in the Presidency proper ..	4,51,946	5,68,794	5,44,584	5,68,349	6,21,726	7,48,360
(4) Expenditure on unmetalled District Local Board roads for maintenance in the Presidency proper ...	5,18,795	4,55,687	5,30,217	4,92,000	6,36,110	6,79,365

V.

Presidency proper (original works and repairs) from to 1935–36.

1927-28. 8	1928-29. 9	1929-30. 10	1930-31. 11	1931-32. 12	1932-33. 13	1933-34. 14	1934-35. 15	1935-36. 16
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
2,98,423	3,29,532	4,11,234	3,07,573	2,60,334	1,02,344	2,16,078	1,52,374	2,21,560
3,18,374	2,72,491	2,62,260	2,28,956	1,86,361	2,13,520	2,06,288	2,57,209	2,18,755
7,59,703	8,51,408	8,73,140	9,31,651	8,81,092	7,66,140	7,53,558	7,27,755	6,78,079
5,91,524	4,57,202	3,51,071	4,62,352	3,36,981	3,36,929	3,17,477	3,63,204	3,27,876

APPENDIX

Statement showing expenditure on establishment in the Roads and Buildings and the percentage on the total outlay on works and

Year	Expenditure on Establishment in the Roads and Buildings Branch						
	41—Civil Works—Provincial (Transferred and Reserved)	60—Civil Works	41—Civil Works—Central	50—Military Works	Deposit Works	Total	Percentage on the total outlay on works and repairs in the Roads and Buildings Branch
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1921-22 ..	29,06,955	..	1,98,683	45,258	2,84,992	34,35,888	19·26
1922-23 ..	20,14,640	8,34,450	1,78,163	71,481	77,143	31,75,877	20·79
1923-24 ..	15,84,488	8,10,645	67,892	38,560	6,88,354	31,89,939	19·88
1924-25 ..	16,89,892	12,25,632	1,19,721	27,862	2,52,556	33,15,663	19·67
1925-26 ..	18,89,417	12,05,078	1,01,876	69,049	2,58,535	35,23,955	20·66
1926-27 ..	25,30,286	5,97,486	1,63,896	5,882	3,94,389	36,96,939	23·76
1927-28 ..	21,99,448	5,59,107	1,49,132	5,042	2,97,270	32,09,999	24·96
1928-29 ..	22,40,303	6,56,713	2,29,540	2,240	2,56,180	33,85,066	25·03
1929-30 ..	22,45,450	7,33,867	1,56,773	3,638	2,34,897	33,74,625	25·26
1930-31 ..	25,51,711	1,80,139	1,72,163	2,415	85,444	29,91,872	32·35
1931-32 ..	25,93,104	2,32,929	1,22,799	3,182	44,132	29,96,146	38·70
1932-33 ..	23,74,603	71,981	85,143	3,334	17,156	25,52,217	39·79
1933-34 ..	22,73,045	31,807	71,866	3,810	30,502	24,11,930	37·97
1934-35 ..	21,88,729	38,278	62,472	2,693	47,694	23,39,866	35·82
1935-36* ..	20,51,807	808	80,984	1,539	54,593	21,98,731	35·75

NOTE.—The percentage of the establishment charges on the cost of works and repairs in the (column 8). The reason is largely that the establishment charges in the Irrigation Branch include certain canal systems which has no connection with the execution of works and repairs spent on revenue management including the *control and distribution of water*, which is debited in the ment charges debited in the accounts to "revenue management" are deducted from the total cost so divergent. The increase in the rate per cent. in the R. & B. Branch is mainly due to decrease in which expenditure on works is reduced. A mere overall percentage on expenditure on works is

* The figures for the year 1935-36 pertain to the Presidency proper only.

VI.

the Irrigation Branches of the P. W. D. from the year 1921–22 *to* 1935–36 *and repairs during that period in both the Branches.*

Expenditure on Establishment in the Irrigation Branch						Total Establishment charges in the Roads and Buildings and Irrigation Branches	Percentage on the total outlay of works and repairs in the Roads and Buildings and Irrigation Branches
55—Construction of Irrigation, Navigation, Embankment and Drainage Works	XIII-Works for which capital accounts are kept	15—Other Revenue Expenditure financed from Ordinary Revenues	Deposit Works	Total establishment charges	Percentage on the total outlay on works and repairs in the Irrigation Branch		
9	10	11	12	13	14	15	16
Rs. 11,53,734	Rs. 13,85,960	Rs. 6,68,651	Rs. 2,770	Rs. 32,11,115	33·59	Rs. 66,47,008	24·26
14,20,751	13,44,901	5,34,327	1,993	33,01,972	32·22	64,77,849	25·38
21,87,793	14,43,222	4,32,013	2,056	40,65,084	33·89	72,55,023	25·87
29,10,785	17,37,724	5,26,361	492	51,75,362	28·73	84,91,025	24·35
32,21,647	17,99,343	5,19,228	2,681	55,42,899	21·62	90,66,854	21·23
35,56,959	18,08,385	5,94,989	3,207	59,63,540	30·56	96,60,479	27·54
36,98,956	19,20,773	7,80,312	3,847	64,03,888	26·00	96,13,887	25·64
39,04,670	21,35,939	6,16,601	2,750	66,59,960	25·51	1,00,45,026	25·35
42,26,873	21,08,302	6,18,312	1,012	69,54,499	23·26	1,03,29,124	23·88
42,88,966	18,31,149	5,99,621	1,734	67,21,470	21·60	97,13,342	24·06
40,37,972	16,34,011	5,18,627	86	61,90,696	22·40	91,86,842	25·97
28,70,427	23,53,971	4,01,329	680	56,26,407	28·54	81,78,624	31·30
17,60,090	29,83,531	5,14,407	48,960	53,06,988	40·41	77,18,918	39·61
15,36,830	30,98,255	4,55,037	441	50,90,563	42·89	74,30,429	40·38
1,37,301	8,66,476	1,73,501	61	11,77,339	39·46	33,76,070	45·21

Irrigation Branch (column 14) is generally higher than that in the Roads and Buildings Branch the cost of Special Revenue Establishment employed entirely on "revenue management" work on and that these charges also include cost of part of the time of Irrigation establishment accounts to "revenue management" and not to execution of works and repairs. If these establishof establishment in the Irrigation Branch the percentage on the cost of works and repairs will not be outlay on "works" and "repairs". Establishment charges cannot be reduced in the same ratio in inaccurate.

gitized with financial assistance from th
Government of Maharashtra
on 22 July, 2017

BOMBAY PRESIDENCY

PUBLIC WORKS DEPARTMENT

DIVISION MAP

1935-36

Scale – 105 Miles to 1 Inch

Secretary ——— is a Chief Engineer.

Administrative Zone 'A' ———
Executive Division Zone 'B' ——— here
Zone 'C' shows nature of Executive Division in Zone 'B' — as follows —

- Permanent Circles & Divisions ... Pink
- Road & Buildings Divisions (a), Green
- Irrigation ... do (b), Blue
- Mixed a. & b. & Miscellaneous do. White

DIAGRAM SHOWING PUBLIC WORKS DEPARTMENT ADMINISTRATION

DECCAN IRRIGATION.

Jurisdiction of Con. Mt. Engineer to Govt. ... Whole Presidency.
Electrical Engineer, ——— Do. ———

SIND PROVINCE

ARABIAN SEA

Gulf of Cutch

Gulf of Cambay

KATHIAWAR

CENTRAL INDIA AGENCY

CENTRAL PROVINCES

KHANDESH

HYDERABAD

Diu I. (Part)

Portuguese Territory

THANA

PRESIDENCY DIVN. BOMBAY

POONA

SATARA

RATNAGIRI

BIJAPUR

GOA

KARWAR

KANARA

Portuguese Territory

MYSORE

66° 70° 74° 78°

28° 24° 20° 16°

Govt. Photozinco. Office. Poona. 1937.